DOCUMENT RESUME

ED 227 028 SO 014 542

AUTHOR Fraas, John W.
TITLE The Use of Seven Simulation Activities in a College Economics Survey Course.
PUB DATE 15 Oct 82
NOTE 30p.; Paper presented at the Economics in the Community College Workshop (Orlando, FL, October 15, 1982).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Achievement; *Cognitive Style; Cognitive Tests; Computer Assisted Instruction; *Economics Education; *Educational Games; Educational Research; Higher Education; Introductory Courses; *Lecture Method; Role Playing; *Simulation; Teaching Methods

ABSTRACT

The simulation-gaming approach to college introductory economics courses benefits students who possess a certain combination of cognitive learning styles. The Cognitive Style Questionnaire, administered to 120 freshmen, identified those students who obtain meaning from spoken words, numerals, or mathematical symbols; have the ability to place themselves in another's position; and are influenced by peers as those who would benefit from the simulation-gaming method. Students who obtain meaning from written words, numerals, or mathematical symbols, direct their own behavior, and make their own decisions were identified as learning best from the lecture-discussion approach. Students were then randomly assigned to courses using one of the two approaches. The experimental class integrated simulation with the lecture method; the control class used the lecture method exclusively. Experimental classes used role playing, team membership, and a computer simulation to demonstrate microeconomic and macroeconomic concepts. Students responsive to simulation techniques in the experimental classes received higher grades than their counterparts in the control classes; conversely, students responsive to lecture-discussion methods recorded higher grades in the control classes than their counterparts in the experimental classes. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED227028

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

John W. Fraas

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

THE USE OF SEVEN SIMULATION ACTIVITIES IN A COLLEGE ECONOMICS SURVEY COURSE

John W. Fraas, Ph.D.
Professor of Economics and Mathematics
Ashland College

A Paper Presented at the
Economics in The Community College Workshop

Hosts
Seminole Community College
Valencia Community College
Orlando, Florida

October 15, 1982

SP 014542

Abstract

This project involved the integration of seven simulation activities in a college economics survey course. The thesis of the project was that certain types of students would benefit from this simulation-gaming method of instruction while other students would benefit more from a lecture-discussion method. The Cognitive Style Questionnaire was the instrument used to identify the types of students who would benefit from this particular simulation-gaming method of instruction. An analysis of the project's data revealed that the simulation-gaming method of instruction was superior in improving the course grades of the students that possessed a certain combination of cognitive learning styles. The lecture-discussion method of instruction, however, was superior for the students who lacked that same combination of learning styles.

THE USE OF SEVEN SIMULATION ACTIVITIES IN A COLLEGE ECONOMICS SURVEY COURSE

Introduction

The use of simulation games in college economics courses and teacher in-service courses has become more popular during the last 15 years. The results of the research conducted on the use of simulation games to teach college economics, however, have at best been conflicting. Various articles report positive findings while other numerous reports cite inconclusive findings. These conflicting findings may be due to the lack of emphasis placed on identifying the type of student who would benefit from a simulation-gaming method of instruction [1,2].

The purpose of the project examined in this paper was to integrate, implement, and evaluate the use of seven simulation activities in a college level introductory economics course. The emphasis of the evaluation was placed on determining if the type of student who would benefit from such a method of instruction could be identified.

Course Design

This study involved the implementation of two methods of instruction in an economic survey course. One method of instruction, which was designated the control method, was the lecture-discussion method. The other method of instruction, which was designated the experimental method, was the simulation-gaming method.

The Lecture-Discussion Method. The basic feature of the lecture-discussion method of instruction was the instructor's lectures. However,

student questions and comments were encouraged. Thus, discussions of the economic concepts by the instructor and students were a part of the instructional process along with the instructor's lectures.

This lecture-discussion method of instruction was designated as the control method because it was the most frequently utilized method of instruction in the Economics Department at Ashland College. The major economic topics included in these control classes were listed in the course syllabus (see Appendix). The economic topics listed on the course syllabus, a copy of which was given to each student, were taught in the order presented on the syllabus. The textbook used in the control classes was entitled Dollars and Sense: An Introduction to Economics by Marilu Hunt McCarty [7].

The Simulation-Gaming Method. The students exposed to the simulation-gaming method of instruction were provided copies of the same course syllabus and used the same textbook as did the students who were enrolled in the control classes. However, the simulation-gaming method of instruction involved the integration of simulation activities with the lecture-discussion method of instruction. A total of 18-1/3 class periods were either devoted to playing the simulation activities or spent on the debriefing sessions. Thus, approximately 50% of the 37 class periods used for instruction were devoted to the simulation activities.

Outdoor-Endurance. The first activity utilized in the experimental course was a simulation entitled Outdoor-Endurance by William May [10]. This simulation consisted of a short description of a situation in which a person had to descend from a mountain. The person had to

select items found in a cabin that would be of assistance in this effort. The person could not select items that weighed more than 50 pounds. A list of items found in the cabin and their weights were provided on sheets distributed to each student. Each student was instructed to assume the role of that person. See Stanford and Roark [10] for further details concerning this activity.

The game demonstrated the economic concepts of (a) limited resources, (b) unlimited wants, and (c) the necessity of making choices. The Outdoor-Endurance activity was introduced after the instructor exposed the students to the definition of economics and the concept of opportunity cost through his lecture and the class discussions. The students were assigned Chapter I of their textbooks before this activity was introduced. This activity took two-thirds of a class period.

Starting a Small Business. The second activity used in the simulation-gaming method of instruction was the simulation game entitled Starting a Small Business by Gupta and Hamman [4]. This simulation game was the only man-computer simulation model used in the experimental classes. The Starting a Small Business game enabled the students to make decisions concerning the pricing policy, advertising budget, quality control, and production capacity of a hypothetical popcorn firm. Additional details concerning the playing of this simulation game were presented in the instructor's manual.

This simulation game incorporated numerous economic concepts including: (a) fixed costs, variable costs, and total costs; (b) total revenue and marginal revenue; (c) competition; (d) profit and loss;

(e) price elasticity; (f) shifts in the demand curve; and (g) the role of investment. This simulation game was played by the students for nine consecutive class sessions. The time allowed for the simulation game varied from a full class period for the first round to approximately one-half of a class period for each of the final eight rounds. The class time not directly used to play this simulation game was devoted to examining, through lectures and discussion, the microeconomic concepts demonstrated by this simulation game. A total of five class periods distributed over nine class periods were directly involved in the playing of this simulation game. The students were assigned to read the material contained in Chapter 2 and Chapter 3 of their textbooks during the three weeks that this simulation game was played.

The Multiplier. The third activity was a simulation entitled The Multiplier [11]. This simulation involved sheets of paper, each of which were designed to represent a dollar bill. The first student in each row was given one of these "dollar bills." The students were instructed to tear off the portion of the sheet that represented the amount of money they would save and pass the remaining portion of the sheet to the next student in their row. The other students in each row were given the same instructions. After the remaining portion of the "dollar bill" reached the last student in the row or the remaining portion of the "dollar bill" was not passed to the next student, the total amount of money received by the students in each row was recorded. The students and instructor proceeded to discuss how much income had been generated and the reasons why this amount of income had been generated.

The economic concepts demonstrated by this simulation were (a) the multiplier, (b) the marginal propensity to consume, and (c) the marginal propensity to save. The game's debriefing session served as the introduction of these concepts to the students. The Multiplier simulation was completed in one class period. The students were assigned to read the material presented in Chapter 3 of their textbooks prior to the period in which this simulation was played.

Mr. Banker. The fourth activity utilized in the experimental classes was a simulation game entitled Mr. Banker [9]. Two rounds of this simulation game were played. In each round the students, who had been divided into five banks, had to make decisions regarding the soundness of a series of loan requests. At the completion of the second round the bank or banks with the highest bank earnings, or the highest number of community resource points, were declared the winners. See the instructor's manual for further details [9].

The economic concepts demonstrated by the game were: (a) the two major types of money, (b) the relationship between loans and the money supply, (c) the relationship between the money supply and the general condition of the economy, (d) the discount rate, and (e) the role of the Federal Reserve System. These economic concepts were discussed at the completion of this simulation game. Mr. Banker and the related classroom discussion took three and one-half class periods. Preceding these class periods the students were assigned Chapter 7 of their textbooks.

Tightrope. The fifth activity used in the experimental classes was entitled Tightrope [5]. This simulation game was best described by Lewis et al. as follows [6]:

> Tightrope is a simulation representing various historical periods of economic activity. The role of participants is to act as economic advisors to maintain economic stability and growth. They must make policy decisions dealing with periods of depression, recession, uncontrolled inflation, moderate inflation, and moderate unemployment, or conditions of stability and reasonable growth. (p. 125)

In this study all four rounds of Tightrope were played. The students were divided into policy teams which consisted of three students each. The policy team demonstrating the highest number of correct decisions, as judged by the instructor, was declared the winner. See the instructor's manual for further details [5]. The concepts demonstrated by this simulation game were (a) fiscal policy, (b) monetary policy, and (c) the impact of fiscal and monetary policy on the components of the economy. These concepts were examined by the class before Tightrope was played. The students were required to read Chapter 6 of their textbooks prior to the class periods devoted to the playing of the Tightrope simulation game. The four rounds of Tightrope and the debriefing sessions conducted after each round took three class periods.

Specialization. The sixth activity utilized in the experimental classes was the simulation entitled Specialization [3]. In this simulation game the students were divided into groups of five or six students and were identified as factories. The simulation game consisted of four stages. During the first stage each factory was told to produce, in a given amount of time, booklets without specializing. At the completion of this round each factory calculated and recorded the average cost of its booklets.

During the second round the members of each factory were allowed to specialize as they saw fit. Again, after the round, each factory

calculated and recorded its average booklet cost. In the third round each factory was allowed to purchase a stapler, which served as a capital good. At the conclusion of this third round, each factory calculated and recorded its cost per booklet. The factory with the lowest average cost for this third round was declared the winner.

The final round involved an increase in labor cost. Each factory was instructed to recalculate with the higher labor costs its average booklet cost based on the production level recorded in round one and round three. A comparison of the results of these two calculations demonstrated to the students the relationship between labor cost increases, productivity, and inflation. For further details concerning this simulation game, see the article written by Fraas, 1978 [3].

The economic concepts demonstrated by this simulation game were (a) the role of specialization; (b) productivity; (c) fixed costs, variable costs, total cost, and average total cost; (d) the role of capital; and (e) the relationship between productivity and inflation. The instructor discussed these concepts with the class after each round and at the completion of the simulation game. The students were assigned to read Chapter 8 of their textbooks preceding the playing of this simulation game. This simulation game took two class periods to complete.

Baldicer. The final activity utilized in the experimental classes was the simulation game Baldicer [12]. Eight rounds of this simulation game were played. Each team, which consisted of two students, was designated as either a superpower, a developed country, or an underdeveloped country. Each country, that is, each set of players, was required to

feed the people of their country. This task required the countries to produce, invest, trade, and to give or receive foreign aid. The countries that were able to keep their people from starving at the end of the fifth round were declared the winners. For further details concerning Baldicer see the instructor's manual [12].

The economic concepts demonstrated by this game were (a) the role of investment, (b) the role of trade and foreign aid, and (c) the growth problems of underdeveloped countries. These economic concepts were discussed by the instructor after the simulation game Baldicer had been played. The students were assigned to read Chapter 12 and Chapter 13 of their textbooks during the week in which this simulation game was played. Baldicer and its debriefing session required three class periods to complete.

Project Implementation

The Ashland College freshman students of the 1978-1979 academic year who declared an intent to major or minor in business administration or economics were defined as the population for this study. A total of 175 freshman students had indicated on pre-registration forms their intent to major or minor in business administration or economics. One hundred twenty of these 175 students were randomly sampled. Each of the 120 students were randomly assigned to one of the four course sections used in the study.

The students in two of the course sections were exposed to the simulation-gaming method of instruction. The students in the other two

sections were exposed to the lecture-discussion method of instruction. Two instructors were chosen to be the instructors for the four course sections. Each instructor was randomly assigned to a simulation-gaming section and a lecture-discussion section of the introductory economics course. The introductory course was a one-semester economics course that included both microeconomic and macroeconomic concepts. See the Appendix for a list of the economic concepts included in the course.

Data. The Cognitive Style Questionnaire [1] was administered at the beginning of the semester to the students to determine which student would most benefit from the simulation-gaming method of instruction. The Cognitive Style Questionnaire consists of 27 subscores. Seven of the 27 subscores were identified as subscores that could possibly be used to identify students who would most benefit from the simulation-gaming method of instruction. The seven subscores selected were as follows:

1. Theoretical Auditory Linguistic [T(AL)]: the student obtains meaning from spoken words.
2. Theoretical Auditory Quantitative [T(AQ)]: the student obtains meaning from spoken numerals or mathematical symbols.
3. Theoretical Visual Linguistics [T(VL)]: the student obtains meaning from written words.
4. Theoretical Visual Quantitative [T(VQ)]: the student obtains meaning from written numerals or mathematical symbols.
5. Qualitative Code Empathetic [Q(CEM)]: the student has the ability to place himself in another person's position.
6. Associates (A): the student is influenced by his peers or associates.

7. Individuality (I): the student directs his own behavior and makes his own decisions.

The seven subscores were selected on the basis that certain student traits would prove beneficial for students to possess when taught by the simulation-gaming method. In a similar manner, other traits would be essential for students to possess when taught by the lecture-discussion method. Since the simulation activities used in the experimental classes involved verbal interaction among the participants or the performance of responses to verbal messages, the traits measured by the subscores T(AL) and T(AQ) were identified as important traits for students to possess when taught by the simulation-gaming method. In addition, the simulation activities required the students to role play, empathize with that role, and interact with their peer-group. Thus, subscores Q(CEM) and A were recorded.

Three traits measured by the Cognitive Style Questionnaire appeared important for the students taught by the lecture-discussion method to possess. More emphasis was placed in the lecture-discussion classes on the use of the textbook and the instructor's notes that were written on the blackboard. Therefore, the subscores T(VL) and T(VQ) were included in the project. The third trait that appeared important for a student to possess when taught by the lecture-discussion method was the student's ability to be self-directed. Therefore, subscore I was recorded for each student.

It was essential for the evaluation of the project that the seven subscores be added together to obtain one score. The resulting

sum was used to predict which students would most benefit from each method of instruction. However, the subscores corresponding to the lecture-discussion method--T(VL), T(VQ), and I--had to be transformed before the seven subscores could be added together to obtain a meaningful total score. Since the maximum score for any one section of the Cognitive Style Questionnaire was 40, each of the subscores corresponding to the lecture-discussion method was subtracted from 40. After the transformation of subscores had been completed and the subscales had been added together, the resulting total score could be interpreted. A student with a high total score should have performed better if taught by the simulation-gaming method. A student with a low total score should have performed better when taught by the lecture-discussion method.

The students were heterogeneous with respect to the seven cognitive style measures. The results of *t* tests, however, indicated that there were no statistically significant differences at the two-tailed criterion level of .05 between the simulation-gaming sections and the lecture-discussion sections with respect to these student characteristics. Further analysis indicated that research mortality that occurred during the study did not affect the homogeneity of the course sections with respect to these student characteristics.

The dependent variable recorded for each student was the student's performance in the economic survey course. The performance of each student was measured by his or her final course grade. The course grade was recorded on a scale from 0 to 11 with 0 corresponding to an F grade and 11 corresponding to an A grade.

Project Evaluation

The thesis of this project was that the simulation-gaming method would be superior to the lecture-discussion method for teaching a college economics survey course for only certain types of students. As previously discussed, two variables were selected to test the effectiveness of the simulation-gaming method of instruction. The sum of the seven selected subscores of the Cognitive Style Questionnaire was the variable used to identify which students would perform better when exposed to the simulation-gaming method. The dependent variable was each student's final grade in the economic survey course.

The following hypothesis was constructed to test the effectiveness of the simulation-gaming method of instruction:

$1H_1$: There was a statistically significant interaction between the methods of instruction and the students' cognitive learning style score when accounting for the variations in the students' performance in an economic survey class over and above the influences of the methods of instruction and cognitive learning style scores.

Multiple linear regression models were constructed to test Hypothesis $1H_1$. A regression model, which was identified as the full regression model, was designed to depict the conditions stated in the research hypothesis, $1H_1$. In a similar fashion, a regression model, which was identified as the restricted regression model, was designed to reflect the situation depicted in the corresponding null hypothesis. A description of the variables used in the regression models was listed in Table 1. The results of the F test conducted on the R^2 values of the restricted and full regression models were used to test Hypothesis $1H_1$.[1]

Insert Table 1 about here

The values resulting from the analysis of the data examined by Hypothesis $1H_1$ were presented in Table 2.

Insert Table 2 about here

The interaction effect examined in Hypothesis $1H_1$ accounted for 6.5% of the variation in the students' performance. The 6.5% of explained variation in the students' performances in the economics survey course produced an F value of 7.13, which was significant at the .01 alpha level. Therefore, the interaction between the methods of instruction and the cognitive learning style scores did account for a statistically significant amount of the students' performances in the economics survey course.

A graph of this statistically significant interaction was presented in Figure 1. The graph presented in Figure 1 was obtained by plotting the regression weights of the independent variables of the full regression model used to test Hypothesis $1H_1$. The y-intercept values for the control and experimental groups corresponded to the values for a_o (12.23) and a_o plus a_2 (-7.21), respectively. The slopes of the lines for the control and experimental groups corresponded to the values for a_4 (-.045) and a_5 (.084), respectively.

Insert Figure 1 about here

An examination of the graph of the interaction effect presented in Figure 1 indicated that the interaction effect was disordinal. The simultaneous solution of the full and restricted regression models revealed an important result. The students assigned to the experimental classes who had cognitive learning style scores above 151, which was slightly above the average score of 147, generally received higher final grades in the economics survey course than did their counterparts who were assigned to the control classes. However, the students assigned to the control classes who had cognitive learning style scores below 151 points tended to record higher grades in the economics survey course than did their counterparts who were assigned to the experimental classes.

Implications

The results of Hypothesis $1H_1$ supported the thesis of this project. The results indicated that neither the simulation-gaming method of instruction nor the lecture-discussion method of instruction was a superior method for teaching the economics survey course. This simulation-gaming method was the superior method of instruction only for the students that possessed certain cognitive style characteristics. The Cognitive Style Questionnaire appeared to be successful in identifying these characteristics. The results also indicated that this simulation-gaming method of instruction was detrimental to students with other cognitive style characteristics.

Two important implications resulted from this project. First, this simulation-gaming method was successful in improving the performance of certain types of students in a college economics survey course. Since the Cognitive Style Questionnaire requires approximately one hour to administer, the questionnaire appears feasible to use as a means of placing students in the appropriate course sections. In addition, the direct costs of the simulation activities used were minimal. Therefore, the apparent benefits received by certain students in the form of higher final economics grades may well outweigh the direct cost of this simulation-gaming method. Second, in a more general nature, it appears important for teachers and researchers to determine the type of students that benefit from not only the simulation-gaming method of instruction but also other methods of instruction. It is naive to think that a given method of instruction will be superior to other methods for all students. Future research projects in economics education should be designed with this point in mind.

Notes

1. The F value for each hypothesis was calculated by the following formula:

$$F = \frac{(R_F^2 - R_R^2) \ / \ (m_1 - m_2)}{(1 - R_F^2) \ / \ (N - m_1)}$$

R_F^2 and R_R^2 represented the total variance in the criterion variable that was accounted for by the variation in the predictor variables in the full and restricted regression models, repsectively. The symbols m_1 and m_2 represented the number of linearly independent vectors in the full and restricted regression models, respectively. N represented the number of students being examined by the given hypothesis.

References

1. DeNike, L, & Strother, G. Media prescription and utilization as determined by educational cognitive style. Athens, Ohio: Line & Color Publishers, 1976.
2. Fraas, J. The effectiveness of a simulation-gaming method of instruction for teaching college level instructors economics. Unpublished doctoral dissertation, The University of Akron, 1978.
3. Fraas, J. Specialization: A simulation game. Ohio Council for the Social Studies Review, 1978, 14, 10-14.
4. Gupta, S., & Hamman, R. Starting a Small Business. Englewood Cliffs, New Jersey: Prentice-Hall, 1974. (Simulation Game)
5. Hartman, C. Tightrope. El Paso Public Schools, Texas, Board of Education, El Paso Public Schools, 1969. (Simulation Game)
6. Lewis, D., Wentworth, D., Reinke, R., & Becker, E., Jr. Educational games and simulations in economics. Joint Council on Economic Education, 1974.
7. McCarty, M. Dollars and sense: An introduction to economics. Dallas, Texas: Scott, Foresman & Company, 1976.
8. Miller, J. Student learning preferences, instructor teaching preferences and achievement in economics. Paper presented at the Symposium on Teaching Economics: Two-Year College Faculty, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, 1978.
9. Nappi, A. Mr. Banker. Minneapolis, Minnesota: Federal Reserve Bank of Minneapolis, 1973. (Simulation Game)

10. Stanford, G., & Roark, A. Human interaction in education. Boston: Allyn & Bacon, 1974.

11. Tuckman, B., & Tuckman, H. Toward a more effective economic principles class. The Journal of Economic Education, 1975, Special Issue 3.

12. Wilcoxson, G. Baldicer. Richmond, Virginia: John Knopf Press, 1970. (Simulation Game)

APPENDIX

ECONOMICS 201
Syllabus

The 201 Economics Survey Course is designed to include a survey of both microeconomic and macroeconomic concepts. The grade for each student will be determined by the results of three tests which cover the basic microeconomic and macroeconomic concepts. The material for which each student is responsible will be contained in the class lectures and the textbook. The textbook for the course is the following:

McCarty, M. Dollars and Sense, 1976. Glenview, Illinois: Scott, Foreman and Company.

The chapters included in each of the three tests are as follows:

Test No.	Chapters
Test #1	Chapters 1-3
Test #2	Chapters 4-7
Test #3	Chapters 8-13

The concepts, topics, and assignments for the course are as follows:

ASSIGNMENT: Chapter 1 of Dollars and Sense

I. Introduction to Economics

A. The economic problem
B. Three basic questions facing a society
C. Three basic methods of organizing a society to deal with the economic problem
D. Circular flow and the factors of production
E. Opportunity cost and production possibilities

ASSIGNMENT: Chapter 2 of Dollars and Sense

II. Supply and Demand

A. Law of demand
B. Demand and quantity demand
C. Elasticity of demand
D. Law of supply
E. Supply and quantity supplied
F. Elasticity of supply
G. Market equilibrium and the change in market equilibrium
H. Surpluses and shortages

II. Supply and Demand (continued)

I. Fixed costs and variable costs
J. The characteristics of total cost, average costs, and marginal costs of production

ASSIGNMENT: Chapter 3 of Dollars and Sense

III. Competition

A. Perfect competition--characteristics, models, and predictions
B. Monopoly--characteristics, models, and predictions
C. Oligopoly--characteristics and predictions
D. Monopolistic competition--characteristics, models, and predictions

ASSIGNMENT: Chapter 4 of Dollars and Sense

IV. National Income

A. Circular flow and the GNP
B. Price indexes and the real GNP
C. Components of the GNP
D. Determinants of the levels of the GNP components

ASSIGNMENT: Chapter 5 of Dollars and Sense

V. Macroeconomic Equilibrium

A. Marginal propensity to consume
B. Aggregate demand and aggregate supply
C. Equilibrium GNP
D. Inflationary gap and deflationary gap
E. The multiplier and accelerator

ASSIGNMENT: Chapter 7 of Dollars and Sense

VI. Monetary Policy

A. Functions of money and the types of money
B. Structure and functions of the Federal Reserve System
C. The reserve requirement and the creation of money
D. The tools of monetary policy
E. The quantity theory of money

ASSIGNMENT: Chapter 6 of Dollars and Sense

VII. Fiscal Policy

A. Government revenue
B. Taxation
C. Fiscal policy
   1. automatic fiscal policy
   2. discretionary fiscal policy
D. Fiscal drag
E. National debt

ASSIGNMENT: Chapter 8 of Dollars and Sense

VIII. Inflation

A. The groups aided and hindered by inflation
B. Types of inflation
C. Possible remedies for the different types of inflation

ASSIGNMENT: Chapter 10 of Dollars and Sense

IX. Unemployment

A. The labor force and unemployment
B. Types of unemployment
C. The relationship between inflation and unemployment
D. Minimum wages and unemployment

ASSIGNMENT: Chapter 12 of Dollars and Sense

X. Economic Growth

A. Savings, investment, and growth
B. Limits of growth
C. Theories of growth
D. Advantages of growth and problems with growth

ASSIGNMENT: Chapter 13 of Dollars and Sense

XI. International Trade

A. Absolute advantage and comparative advantage
B. Accounts in the balance of payment
C. Fixed and floating exchange rates and the balance of payments

XI. International Trade (continued)

D. International currency flows
E. Barriers to trade
F. Gold and international finance

ASSIGNMENT: Chapter 9 of Dollars and Sense

XII. Union

A. Union history
B. Market in labor
   1. Demand for labor
   2. Supply of labor
C. The effect of labor unions and wages

ASSIGNMENT: Chapter 11 of Dollars and Sense

XIII. Income Distribution and Poverty

A. Types of poverty
B. Policies to deal with poverty
C. Lorenz curve
D. Absolute and relative poverty

Table 1: Description of Variables

Variables	Description of the Variables
Y_1	Final grades for the economics survey course (F = 0, D- = 1, D = 2, D+ = 3, C- = 4, C = 5, C+ = 6, B- = 7, B = 8, B+ = 9, A- = 10, A = 11)
X_1	Students exposed to the lecture-discussion method of instruction (yes = 1, no = 0)
X_2	Students exposed to the simulation-gaming method of instruction (yes = 1, no = 0)
X_3	The student cognitive learning style scores
X_4	Cognitive learning style scores of the students exposed to the lecture-discussion method of instruction ($X_1 \cdot X_3$)
X_5	Cognitive learning style scores of the students exposed to the simulation-gaming method of instruction ($X_2 \cdot X_3$)

Table 2. Test Results for Hypothesis $1H_1$

Full Model:	$Y_1 = a_0U + a_2X_2 + a_4X_4 + a_5X_5 + E_1$	
	(12.23) (-19.44) (-.045) (.084)	
Restriction:	$a_4 = a_5$	
Restricted Model:	$Y_1 = a_0U + a_2X_2 + a_3X_3 + E_2$	
	(1.65) (-.36) (.026)	
Full Model $\underline{R}^2$:		.080
Restricted Model $\underline{R}^2$:		.015
$\underline{df}$		1/101
$\underline{F}$		7.13[a]

[a]Significant at the .01 alpha level.

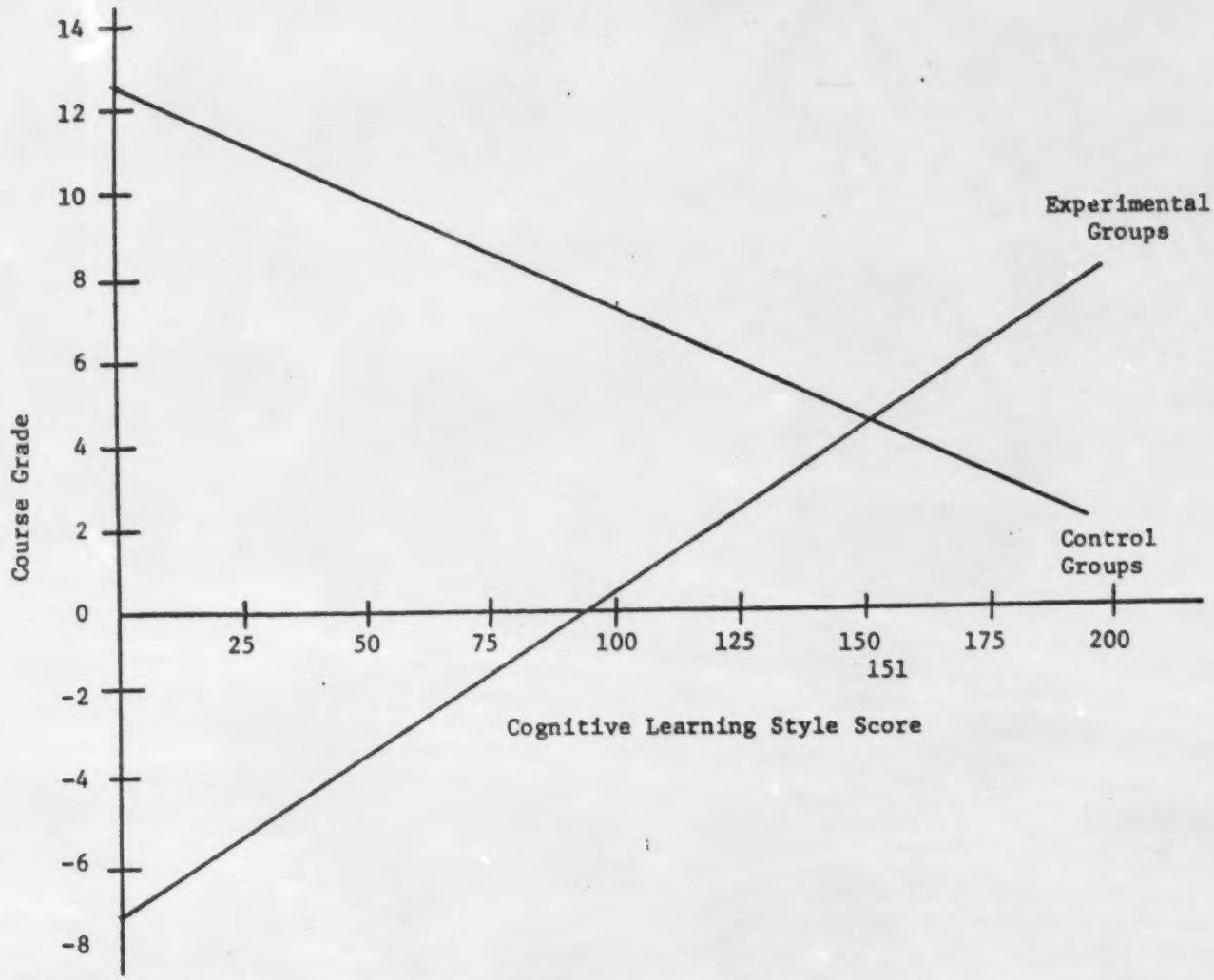

Figure 1. Interaction Between the Methods of Instruction and the Cognitive Learning Style Scores